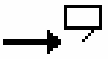
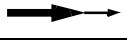
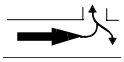
Cycling Research

THE ACCIDENTAL TYPE

We often have fairly pre-conceived notions about what are the most dangerous issues for cyclists out on the roads. So what are the main types of cycle crashes? Here is an analysis of all reported injury motor vehicle accidents involving a cycle during 1999-2003.

According to LTSA's Crash Analysis System (CAS), there were over 3400 reported injury crashes involving a cyclist in that five-year period, including 59 fatal crashes. Over 3200 of those (92%) were in urban areas, as you might expect, although 53% of all fatal crashes were on rural roads (demonstrating once again the effect of vehicle speed on cyclist safety!). 59% of urban crashes occurred at intersections (not including driveways), as opposed to only 29% in rural areas, where intersections tend to be less common.

Here are the top crash types:

Description of crash type (LTSA Movement Code)	Diagram	% Of Crashes
Cyclist hit oncoming Vehicle turning right (LB)		12.2%
Vehicle hit Cyclist crossing at right angle from right (HA)		9.4%
Cyclist hit Vehicle turning right from the left (JA)		8.0%
Cyclist hit Vehicle crossing at right angle from right (HA)		7.0%
Cyclist hit opened door (EE)		4.5%
Cyclist hit Vehicle merging from the left (KA)		4.4%
Cyclist sideswiped by Vehicle turning left (GB)		4.3%
Vehicle hit rear end of Cyclist stopped / moving slowly (FA)		3.3%
Cyclist pulling out / changing lanes to right hit Vehicle (AA)		3.3%
Vehicle hit Cyclist turning right from the left (JA)		3.2%
Cyclist hit Vehicle doing driveway manoeuvre (MD)		2.9%
Cyclist hit parked Vehicle (EA)		2.6%

You can see a number of common intersection issues for cyclists, often to do with motorists failing to give way. The classic "door prize" (EE) also features quite highly, and may also include some of the crashes coded EA ("hit parked vehicle") as well. Sometimes the crash codes used raise questions about their appropriateness; for example crash type AA – presumably this generally relates to cyclists pulling out to overtake *parked* vehicles, not moving ones...

For rural crashes, the crash pattern is somewhat different; here are the top six:

Description of crash type (LTSA Movement Code)	Diagram	% Of Crashes
Vehicle hit rear end of Cyclist stopped / moving slowly (FA)		17.7%
Vehicle hit rear of Cyclist stopped or turning from left side (GC)		7.0%
Cyclist pulling out / changing lanes to right hit Vehicle (AA)		6.3%
Vehicle cutting in / changing lanes to left hit Cyclist (AC)		5.2%
Cyclist hit Vehicle crossing at right angle from right (HA)		4.8%

Cyclist hit Vehicle turning right from the left (JA)		3.7%

We can see that the predominant movements involve vehicles coming up behind cyclists and either not being able to avoid hitting them or causing a crash when passing them. Some intersection problems also show up, but they're less of an issue.

While this information is useful in prioritising some road safety interventions, it is important to remember that this only tells us about *reported* injury cycle crashes involving a motor vehicle. Firstly, many minor and non-injury crashes don't get reported to the Police; everyone just picks themselves up and gets on their way. Our own CAN Member's Survey last year found only 1 in 10 injury crashes by CANners being reported to the Police. This figure will also include many non-motor vehicle crashes that don't get picked up by the LTSA, such as falls on loose gravel or collisions with objects or pedestrians – some estimates put their number at 2-4 times as many again as motor vehicle crashes.

References

- CAN, Members' Survey 2003. Web: *http://www.can.org.nz/research/Survey-2003-Summary.doc* (142kb)
- LTSA 2003, Vehicle movement coding sheet.
  Web: *http://www.ltsa.govt.nz/roads/crash/docs/vehicle-movement.pdf* (75kb)
- Munster D. *et al* 2001, "Role of Road Safety Features in Cycle-Only Crashes in New Zealand", Transfund NZ Research Report No. 211.

Glen Koorey (koorey@paradise.net.nz, 03-3317504)